

# A New Species of *Muricopsis* from West Mexico

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(Plate 52; 4 Text figures)

IN THE COURSE OF our continuing study of the Muricidae of the Panamic province of the eastern Pacific we have frequently encountered an apparently undescribed species of *Muricopsis* from Jalisco state, West Mexico. Almost two years ago the junior author was first shown specimens of this species by Mrs. Ruth Purdy of San Diego, California. Since then, many specimens have been generously made available to us for examination. The number of specimens in private and museum collections is surprisingly large and is indicative that the species is at least moderately common at certain points in the region between Banderas Bay (Puerto Vallarta) and Manzanillo.

## ABBREVIATIONS USED

SDNHS – San Diego Natural History Society  
LACM – Los Angeles County Museum of Natural History  
AMNH – American Museum of Natural History

*Muricopsis* BUCQUOY & DAUTZENBERG,  
1882

*Muricidea* MÖRCH, 1852, p. 95, non SWAINSON, 1840; type species: *Murex magellanicus* GMELIN, 1791 (= *M. geversianus* PALLAS, 1774) by OD

*Muricopsis* BUCQUOY & DAUTZENBERG, in BUCQUOY, DAUTZENBERG & DOLLFUS, 1882, p. 19; type species: *Murex blainvillei* PAYRAUDEAU, 1862, by OD

**Remarks:** The genus *Muricopsis* was originally erected for mollusks with small to moderate-sized, spinose or tuberculate shells, and with strong denticulation on the inner surface of the apertural lip. Color and degree of sculp-

ture vary even within a single species as is noted by BUCQUOY & DAUTZENBERG.

The following nominal species from the eastern Pacific are apparently referable to *Muricopsis*.

1. *Murex armatus* A. ADAMS, 1854, p. 71, Gulf of California, Mus. Cuming, (= *Muricidea squamulata* CARPENTER, 1865), holotype, BM(NH) no. 1954-4.15.10-12 (see KEEN, 1958, fig. 367).

2. *Muricopsis zeteki* HERTLEIN & STRONG, 1951, p. 85, Panama City, Panama, (= *Murex aculeatus* WOOD, 1828, non LAMARCK, 1822) (= *Murex dubius* SOWERBY, 1841, non DILLWYN, 1817), holotype (of *M. aculeatus*): ?BM(NH), see DANCE, 1966, p. 305.

3. *Murex pauxillus* A. ADAMS, 1854, p. 71, Gulf of California, Mus. Cuming, holotype: BM(NH).

4. *Muricopsis jaliscoensis*, new species, described below, from Jalisco, West Mexico.

The genus *Muricopsis* has an apparently long and widespread fossil distribution. According to WENZ (1941), fossil species are known from most world areas; the earliest, reported from the Paleocene of Europe. These include: Europe (*M. multistriatus* DESHAYES), Indo-Pacific, North America (*M. spinulosa* HEILPRIN, *M. aldrichi* COSSMANN) and Australia (*M. alveolatus* TATE).

*Muricopsis blainvillei* (PAYRAUDEAU, 1826)

(Plate 52, Figure 3)

*Murex blainvillii* PAYRAUDEAU, 1826, p. 149; pl. 7, figs. 17, 18; L'île de Corse (Corsica).

*Murex cristatus* BROCCHI; RISSO, 1826, vol. 4, p. 191.

*Cancellaria blainvillii* PAYRAUDEAU; BLAINVILLE, 1826, p. 139; pl. 5, fig. 4.

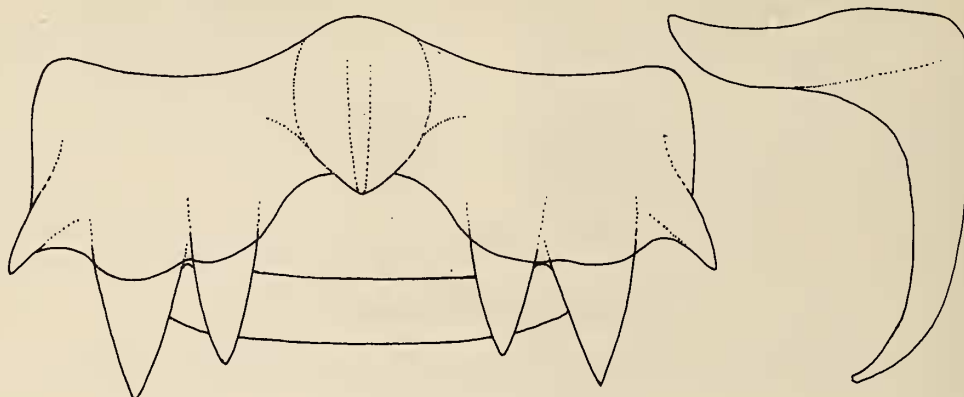


Figure 1

*Muricopsis blainvillei* (PAYRAUDEAU, 1826)  
one lateral and one central tooth from the radula  
(SDNHS no. 51308)

*Murex pliciferus* BIVONA-BERNARDI, 1832, p. 22; plt. 3, fig. 10.

*Murex (Muricidea) blainvillei*, PAYRAUDEAU; H. & A. ADAMS, vol. 1, p. 75.

*Murex (Ocinebra) blainvillei* PAYRAUDEAU; MONTE-ROSATO, 1878, p. 40.

*Murex (Muricopsis) blainvillei* PAYRAUDEAU; BUG-QUOY & DAUTZENBERG, 1882, vol. 1, p. 19; Roussillon, France.

**Distribution:** Mediterranean Sea, Atlantic coast of Portugal, Spain and North Africa, as well as the Island of Madeira. Also reported, under the name of *Murex cristatus* BROCCHI, 1814 from the Pliocene of Italy.

**Description of the radula:** Each transverse radular row has a single rachidian tooth, flanked on each side by a simple, sickle-shaped lateral tooth (Text figure 1). The base of the rachidian tooth is roughly rectangular with very prominent, downward pointing projections on each

end of the rectangle, and 5 sharp cusps. The lateral cusps are quite long and sharp, the intermediate cusps are as sharp, about  $\frac{2}{3}$  as long, and are positioned closer to the lateral cusps than to the central cusp. The central cusp is the longest and strongest of the 5, with a prominent, blade-like highlight along its leading edge. It is borne on a cowl-like structure and projects far in advance of the remainder of the tooth. It is not as down-hooked as is the case in *Muricopsis jaliscoensis* and in some other species of *Muricopsis*. As a result of this great forward extension of the central cusp, it is virtually impossible, under high magnification, to bring it into focus simultaneously with the remainder of the cusps.

**Remarks:** The type locality of *Muricopsis blainvillei* is Corsica in the northwestern Mediterranean. For many years, another name has persistently competed with *M. blainvillei* for primary recognition. *Murex cristatus* was first described by BROCCHI (1814) for a fossil species from

### Explanation of Plate 52

Figure 1: *Muricopsis zeteki* HERTLEIN & STRONG, 1951, SDNHS no. 50821, Bahía Coastocomate, Jalisco, Mexico; length 21.2 mm; width 13 mm

Figure 2: *Muricopsis armatus* (A. ADAMS, 1854), SDNHS no. 22740, La Paz, Baja California del Sur, Mexico; length 32 mm; width 18 mm

Figure 3: *Muricopsis blainvillei* (PAYRAUDEAU, 1826), SDNHS no. 51308, Livorno, Mare Tirreno, Italy; length 24 mm; width 12 mm

Figure 4: *Muricopsis jaliscoensis* RADWIN & D'ATTILIO, spec. nov. holotype, SDNHS no. 51251, Bahía Coastocomate, Jalisco, Mexico; length 26.5 mm; width 13.8 mm

Figure 5: *Muricopsis jaliscoensis* RADWIN & D'ATTILIO, spec. nov. paratype, SDNHS no. 51250, Bahía Coastocomate, Jalisco, Mexico; length 23.3 mm; width 13 mm

Figure 6: *Muricopsis jaliscoensis* RADWIN & D'ATTILIO, spec. nov. protoconch, greatly enlarged



Figure 1



Figure 2



Figure 3



Figure 4



Figure 5



Figure 6



the Pliocene of Italy. Although this name has often been used for *M. blainvillei*, we have been unable to come to a firm conclusion concerning its status. We have never seen a *bona fide* Recent specimen of *Murex cristatus* and, therefore, any statement on this matter would enter the realm of conjecture. If *Murex cristatus* were to be shown to be the same as *Muricopsis blainvillei*, the former name would, of course, have priority and the latter would be considered a junior synonym.

We have not seen the type of *Murex blainvillei*, said by DANCE (1966, p. 297) to be in the Paris Museum, but there is little doubt about the identity of this species, figured many times in the literature (PAYRAUDEAU, 1826; GRANGER, 1884; LOCARD, 1892).

*Muricopsis jaliscoensis* RADWIN & D'ATTILIO, spec. nov.

(Plate 52, Figures 4, 5)

**Description:** Shell light brown; length 26.5 mm; 6 whorls excluding the nucleus; spire high, with 5 spinose varices and sculptured with finely scabrous striae throughout. The nucleus of an immature paratype has 2 whorls; the first whorl is somewhat flat and slightly depressed; the second nuclear whorl is distinctly tabulate (Plate 52, Figure 6). Axial sculpture on the spire consists of conical tubercles at the shoulder, extending axially to preceding whorls as low ridges; areas between these low ridges equal in width and concave; suture very shallow and undulate. Spiral sculpture on the body whorl consists of primary, secondary, and tertiary elements. There are 5 primary cords, 4 equidistant cords and a fifth, more distant one on the canal. Each of these ends in a short varical spine; spines increase in length toward the final varix. The varical edge is obliterated except on the last 3 or 4 varices. Between the primary cords are 1 or 2 secondary cords, also ending in tiny spines. Interspersed between the primary and secondary elements are numerous fine tertiary threads, imbricated with close-set scales, present also on the varical spines. In addition, the shoulder has about 10 spiral cords of secondary strength. The spiral cords on the spire are the same size and development as those on the body whorl. The color of the entire shell is an even tone of yellow-brown. The aperture is of moderate size; situated below the median area of the shell; is white to bluish white; ovate; with a posterior anal groove; the inner surface of the apertural lip has 7 denticles, arranged as follows: a large knob-like one near the anal groove; below this, occupying the remainder of the lip are 6 denticles; the center 4 set more closely together, the remaining 2 somewhat more distant, 1 on each side of the central 4. The columellar edge is slightly erect anteriorly. On the

columella, directly above the siphonal canal are 3 contiguous denticles in a posterior-anterior orientation, the posterior one most prominent. The siphonal canal is moderately long, narrowly open and recurved; the siphonal fasciole bears the short distal portions of 3 previous canals.

**Description of the radula:** Each transverse radular row has a single rachidian tooth, flanked on each side by a simple, sickle-like lateral tooth (Text figure 2). The base of the rachidian tooth is roughly rectangular with a prominent, downward pointing projection at each end of the rectangle and 5 sharp cusps. The lateral cusps are moderately long and sharp. The intermediate cusps are as sharp but only half as long and are positioned closer to the lateral cusp than to the central. The central cusp is unusually large and strong and is borne on a cowl-like structure. This structure enables it to project further outward and downward than any of the other cusps. Because of the great distance that this cusp projects in advance of the others, it is impossible, at the desired high magnification, to bring it into focus simultaneously with the remainder of the cusps.

**Measurements:** holotype – length, 26.5 mm; width, 13.8 mm; largest paratype – length 27.3 mm; width, 16.5 mm (lacking protoconch); smallest mature paratype – length, 22.2 mm; width, 12.0 mm.

**Type locality:** Bahía Coastocomate, Jalisco, Mexico, in 20 - 70 feet, Lawrence E. Thomas, January, 1969 (holotype, see Plate 52, Figure 4; and 4 paratypes).

**Type depositories:** holotype, SDNHS no. 51251; 4 paratypes, SDNHS no. 51250, January, 1969 (Plate 52, Figure 5), both from type locality; 3 paratypes, SDNHS no. 51015, March 1, 1969 (specimen from which figured radula was extracted), Puerto Vallarta, Jalisco, Mexico, 2 mature, 1 immature; 1 paratype, SDNHS no. 51285, October 19, 1968, Coastocomate, Jalisco, Mexico, mature; 22 paratypes, 5 mature, 17 immature, LACM no. 65-15, March 22, 1965, Los Arcos, Banderas Bay, Jalisco, Mexico; 30 paratypes, 18 mature, 12 immature, LACM no. 65-14, March 21, 1965, Tres Marietas Islands, Banderas Bay, Jalisco, Mexico; 5 paratypes, all mature, AMNH no. 153349, February 1, 1969, Barra de Navidad, Jalisco, Mexico (dead specimens).

**Remarks:** The holotype is a fresh, live-taken specimen, as are all but 5 of the paratypes (see above). The 5 paratypes deposited at the American Museum of Natural History are dead-collected but rather fresh.

From a zoogeographic viewpoint the distribution of this species is narrowly restricted, on the basis of our present knowledge. It is found mainly in the area between Banderas Bay (Puerto Vallarta) and Manzanillo. This portion

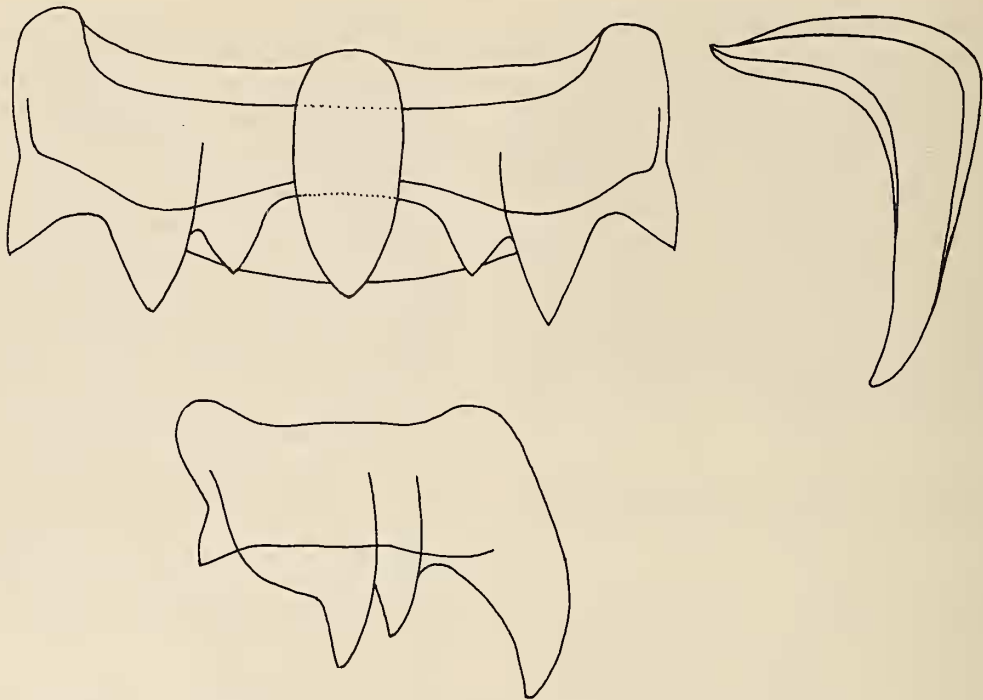


Figure 2

*Muricopsis jaliscoensis* RADWIN & D'ATTILIO, spec. nov.  
one lateral and one central tooth from the radula of a paratype  
(SDNHS no. 51015)

of Mexico has not, apparently, been sufficiently explored for its molluscan species. Although the new species is not rare, and found in fairly shallow water, the lack of collecting in this relatively small area of the West Mexican coast may account for its not being discovered until the last few years. It is most closely allied in size and form to *Muricopsis zeteki* HERTLEIN & STRONG, 1951 (Plate 52, Figure 1), a widespread species occurring from the Gulf of California to Ecuador and Galápagos. *Muricopsis zeteki* differs, however, in its more slender overall appearance and its more spinose character. In the area in which both species occur, the spines and primary spiral cords of *M. zeteki* are whitish, the interspaces between the spines are dark brown to black, and the remainder of the shell is yellow-tan. One other species, *M. armatus* (A. ADAMS, 1854) (Plate 52, Figure 2) needs to be considered in this context. The distribution of *M. armatus* is from the upper portion of the Gulf of California to Mazatlán, Mexico, with dubious records from Nicaragua and Panama. Its distribution does not seem to overlap that of *M. jaliscoensis*. *Muricopsis armatus* is whitish to pale yellow or brown in color; it is larger (18 - 47 mm) and in areas

of optimal conditions the spines are long and sharp. The shoulder is well defined. The inner surface of the apertural lip has 5 to 7 denticles, depending on the size of the individual. On the anterior columellar edge there are 2 denticles; 1 at the mouth of the aperture and 1 recessed more deeply.

In the aperture of all these species, one may find a quick diagnostic feature for their separation. *Muricopsis zeteki* has 5 denticles within the apertural lip, a posterior knob-like denticle near the anal groove, a second large denticle below this, followed by 3 smaller denticles. In addition, on the anterior end of the columella are 2 contiguous, elongate denticles. The first is the larger, and with the second one, situated more deeply within the aperture, forms a continuous ridge extending into the aperture for a considerable distance. Anterior to this structure there is a strong groove followed by a raised, rounded ridge at the end of the columella.

In *Muricopsis armatus* the inner surface of the apertural lip bears 5 to 7 equidistant denticles and on the columellar edge are 2 denticles, 1 at the mouth and the second recessed more deeply into the aperture.